

REMARKS

Claims 1-44 are pending in the present application but stand rejected. In view of the following remarks, the Applicant requests the Examiner's thoughtful reconsideration.

Title Objection: The Examiner, without citation to any authority, objected to the Title asserting that it is not descriptive. The Applicant respectfully disagrees and asks the Examiner to compare the title to the preamble of Claim 1. If the Examiner persisted in the objection to the Title, the Applicant asks that the Examiner apply legal authority to that comparison to provide a reasoned argument.

Claim Rejections – 35 USC §112: The Examiner rejected Claims 6-8, 19-21, 30, 33, and 40-42 under §112, second paragraph asserting only that the terms A0, A1, A2, B1, B2, DCO, QS1, QS2, QC1, QC2, and Wk are not defined.

The relevant inquiry under 35 U.S.C. § 112, second paragraph, is whether the claim language, as it would have been interpreted by one of ordinary skill in the art in light of the appellants' specification and the prior art, sets out and circumscribes a particular area with a reasonable degree of precision and particularity. See *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

The Examiner has not addressed the disclosure throughout the appellant's specification directed toward the terms A0, A1, A2, B1, B2, DCO, QS1, QS2, QC1, and QC2, and Wk and explained why, in view of that disclosure, one of ordinary skill in the art would not have reasonably understood the definition of those terms. Hence, the Examiner has not carried the burden of establishing a prima facie case of indefiniteness of Claims 6-8, 19-21, 30, 33, and 40-42.

Claim Rejections – 35 USC §102: The Examiner rejected Claims 1, 4, 5, 10, 11, 14, 17, 18, 22, 23, 25, 28, 29, 31, 35, 38, 39, and 43 under §102 as being anticipated by USPN 5,742,573 issued to Hajjar.

Claim 1 is directed to a system for providing a signal to an actuator within an optical disk drive, to focus optics on an optical disk within the optical disk drive and recites the following:

1. an error term generator configured to generate an error term;
2. an adaptation coefficient configured to regulate a rate at which the error term modifies an actuator control signal; and
3. an actuator control signal generator to generate the actuator control signal, wherein the actuator control signal is a function of a prior actuator position, the error term and the adaptation coefficient.

The Examiner mistakenly asserts that Hajjar, column 5, lines 1-11 and column 4, lines 53-57 teaches an adaptation coefficient configured to regulate a rate at which the error term modifies an actuator control signal. The first passage cited by the Examiner describes controlling the vertical or focus position of a lens in an optical drive. That passage mentions that the control of the vertical position is functions the same as the control of the radial position of the lens. The second passage cited by the Examiner is taken from a description the control of the radial position of a lens. That second passage discusses a feedforward signal that is added to an actuator current that is applied to a coil. More particularly, the second passage discusses refining the feed forward signal by "periodically re-measuring the actuator drive signal, finding the selected terms of the Fourier series representation, and averaging them with previous iterations Fourier series representations."

With respect to Hajjar's "refinement", the Examiner contends that "if the feedforward signal is averaged with previous iterations there must be a coefficient configured to regulate the rate at which the error term modifies it." First of all, it is noted that Hajjar does not discuss averaging the feedforward signal as implied by the Examiner. It teaches finding selected terms of a Fourier series representation and averaging those terms with previous iterations of those Fourier series representations.

These averages are not an adaptation coefficient configured to regulate a rate at which the error term modifies an actuator control signal.

Consequently, Hajjar fails to teach or suggest a system that includes an adaptation coefficient configured to regulate a rate at which the error term modifies an actuator control signal. For at least this reason, Claim 1 is patentable over Hajjar as are Claims 2-13 which depend from Claim 1.

Should the Examiner persist, the Applicant respectfully asks that the Examiner explain how the averaged terms of Hajjar's Fourier series representation are configured to regulate a rate at which the error term modifies an actuator control signal.

Claim 14 is directed to a processor-readable medium comprising processor-executable instructions for focusing optics within an optical disk drive, and recites that the processor-executable instructions include instructions for the following:

1. generating an error term;
2. regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient; and
3. generating an actuator control signal as a function of a prior actuator position, the error term and the adaptation coefficient.

As with Claim 1, Hajjar fails to teach or suggest regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient. For at least this reason, Claim 14 is patentable over Hajjar as are Claims 15-24 which depend from Claim 14.

Claim 25 is directed to a method of focusing optics on a disk within an optical disk drive and recites the following:

1. generating an error term;
2. regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient; and

3. generating an actuator control signal as a function of a prior actuator position, the error term and the adaptation coefficient.

As with Claim 1, Hajjar fails to teach or suggest regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient. For at least this reason, Claim 25 is patentable over Hajjar as are Claims 26-34 which depend from Claim 25.

Claim 35 is directed to a focusing system and recites the following:

1. means for generating an error term;
2. means for regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient; and
3. means for generating an actuator control signal as a function of a prior actuator position, the error term and the adaptation coefficient.

As with Claim 1, Hajjar fails to teach or suggest a means for regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient.

For at least this reason, Claim 35 is patentable over Hajjar as are Claims 36-44 which depend from Claim 35.

Claim Rejections – 35 USC §102: The Examiner rejected Claims 1, 4, 7, 9, 14, 17, 20, 21, 25, 28, 33, 34, 35, 38, 41, and 42 under §102 as being anticipated by US Pub 2002/0089906 to Faucett.

Claim 1 is directed to a system for providing a signal to an actuator within an optical disk drive, to focus optics on an optical disk within the optical disk drive and recites the following:

4. an error term generator configured to generate an error term;
5. an adaptation coefficient configured to regulate a rate at which the error term modifies an actuator control signal; and
6. an actuator control signal generator to generate the actuator control signal, wherein the actuator control signal is a function of a prior actuator position, the error term and the adaptation coefficient.

The Examiner mistakenly asserts that the coefficient A in Faucett's equation 3, is an adaptation coefficient configured to regulate a rate at which the error term modifies an actuator control signal.

Paragraph's [0018]-[0022] are relevant to discerning the meaning of the terms in Faucett's equation 3. Paragraph [0018] and [0019] discusses a first equation for $Y(m)$ that generates a sinusoidal signal as a function of at least the previous two values for $Y(n)$. Paragraph [0020] mentions that if the previous two values of $Y(n)$ are zero then the current value will also be zero. However, if the previous two values of $Y(n)$ are seeded with a value represented by the coefficient A, then a cosine wave will be generated with an amplitude of A at a specified frequency.

Paragraph [0021] discusses a second equation describing the eccentricity on an optical medium that is a function of the coefficient A discussed above and another coefficient B. Coefficients A operates on the current value of an error signal while the coefficient B operates on a prior valued of that error signal. Paragraph [0021] states that the coefficient A is a constant that is less than zero and the coefficient B is a constant that is positive and greater than the absolute value of the coefficient A. Paragraph [0021] states: "By making A less than zero and B positive and greater than the absolute value of A, the generated signal has a sinusoidal waveform that is 90 degrees out of phase with the eccentricity on the media 104."

In summary, Faucett's coefficients A and B constants that are configured to generate a signal that "has a sinusoidal waveform that is 90 degrees out of phase with the eccentricity on the media 104." Faucett's coefficients A and B are not configured to regulate a rate at which the error term modifies an actuator control signal.

Consequently, Faucett fails to teach or suggest a system that includes an adaptation coefficient configured to regulate a rate at which the error term modifies an actuator control signal. For at least this reason, Claim 1 is patentable over Faucett as are Claims 2-13 which depend from Claim 1.

Claim 14 is directed to a processor-readable medium comprising processor-executable instructions for focusing optics within an optical disk drive, and recites that the processor-executable instructions include instructions for the following:

4. generating an error term;
5. regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient; and
6. generating an actuator control signal as a function of a prior actuator position, the error term and the adaptation coefficient.

As with Claim 1, Faucett fails to teach or suggest regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient. For at least this reason, Claim 14 is patentable over Faucett as are Claims 15-24 which depend from Claim 14.

Claim 25 is directed to a method of focusing optics on a disk within an optical disk drive and recites the following:

4. generating an error term;
5. regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient; and
6. generating an actuator control signal as a function of a prior actuator position, the error term and the adaptation coefficient.

As with Claim 1, Faucett fails to teach or suggest regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient. For at

least this reason, Claim 25 is patentable over Faucett as are Claims 26-34 which depend from Claim 25.

Claim 35 is directed to a focusing system and recites the following:

4. means for generating an error term;
5. means for regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient; and
6. means for generating an actuator control signal as a function of a prior actuator position, the error term and the adaptation coefficient.

As with Claim 1, Faucett fails to teach or suggest a means for regulating a rate at which the error term modifies an actuator control signal using an adaptation coefficient.

For at least this reason, Claim 35 is patentable over Faucett as are Claims 36-44 which depend from Claim 35.

Claim Rejections – 35 USC §103: The Examiner rejected Claims 2, 3, 5, 16, 26, 27, 36, and 37 under §103 as being unpatentable over Hajjar in view of USPN 5,477,333 issued to Shoda.

Claims 2, 3, and 5 depend from Claim 1 and are patentable over the cited references based at least on their dependence from Claim 1.

Claim 16 depends from Claim 14 and is patentable over the cited references based at least on its dependence from Claim 14.

Claims 26 and 27 depend from Claim 25 and are patentable over the cited references based at least on their dependence from Claim 25.

Claims 36 and 37 depend from Claim 35 and are patentable over the cited references based at least on their dependence from Claim 35.

Claim Rejections – 35 USC §103: The Examiner rejected Claim 8 over Faucett in view of Hajjar.

Claim 8 depends from Claim 1 and is patentable over the cited references based at least on its dependence from Claim 1.

Claim Rejections – 35 USC §103: The Examiner rejected Claims 12, 13, 24, 32, and 44 under §103 as being unpatentable over Hajjar in view of USPN 6,813,226 issued to Kadlec.

Claims 12 and 13 depend from Claim 1 and are patentable over the cited references based at least on their dependence from Claim 1.

Claim 24 depends from Claim 14 and is patentable over the cited references based at least on its dependence from Claim 14.


Claim 32 depends from Claim 25 and is patentable over the cited references based at least on its dependence from Claim 25.

Claim 44 depends from Claim 35 and is patentable over the cited references based at least on its dependence from Claim 35.

Conclusion: In view of the foregoing remarks, the Applicant respectfully submits that the pending claims are in condition for allowance. Consequently, early and favorable action allowing these claims and passing the application to issue is earnestly solicited. The foregoing is believed to be a complete response to the outstanding Office Action.

Respectfully submitted,
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August 7, 2006